

ABSTRACT

An electrolytic apparatus for an oxide electrolytic method having a constitution such that in the interior of an electrolytic vessel 10, a common cathode 12 and two types of anodes different in shape and arrangement (here, a first anode 14 arranged beneath the cathode, and a second anode 16 arranged in parallel to the cathode) are provided; a first electrolysis controller 18 is connected between the cathode and the first anode, and a second electrolysis controller 20 is connected between the cathode and the second anode. The electrolytic processing of the substance 22 to be processed in the electrolytic vessel is carried out in such a way that a pair of the cathode and one of the anodes is used for main electrolysis and a pair of the cathode and the other anode is used for auxiliary electrolysis. By this apparatus, prevention of the ununiform distribution of the electrodeposit, improvement of the processing speed and improvement of the durability of the crucible are achieved, whereby the recycling of spent nuclear fuels based on the nonaqueous reprocessing method is made feasible in a commercial scale.